2   Stress

2.1   The Finnish stress system

The descriptive generalizations. Speaking for the moment in derivational terms, Finnish stress is assigned by laying down binary feet from left to right. Final syllables are not stressed if they are light, and only optionally if they are heavy. An important phenomenon is the LH̀ EFFECT: when the left-to-right scansion encounters a Light-Heavy sequence, the light syllable is skipped, with the result that a ternary foot is formed. At the left edge of a word, the LH̀ effect is superseded by the inviolable requirement that a word must have initial stress.

The basic alternating stress pattern is shown in (4):

(4)   a. *(ká.las)(tè.let)* 'you're fishing'
       b. *(ká.las)(tè.le)(mì.nen)* 'fishing'
       c. *(íl.moit)(tàu.tu)(mì.nen)* 'registering'
       d. *(jǎr.jes)(tè.le)(màt.tö)(mỳy.des)(tàn.sä)* 'from his lack of systematization'

The ternary feet resulting from the LH̀ effect are seen in (5) (the relevant LH sequences in boldface):

(5)   a. X́ X L H̀ X: *(ká.las.**te**)(**lèm**.me)* 'we're fishing'
       b. X́ X X̀ X L H̀ X: *(íl.moit)(tàu.tu.**mi**)(**sès**.ta)* 'registering' (Elat.Sg.)
       c. X́ X X̀ X L H̀ X X̀ X: *(jǎr.jes)(tèl.mäl.**li**)(**sỳy**.del)(là.ni)* 'my systematicity' (Adess.Sg.)
       d. X́ X X̀ X X̀ X L H̀ X: *(jǎr.jes)(tèl.mäl)(lìs.tä.**mä**)(**tòn**.tä)* 'unsystematized' (Prt.Sg.)
       e. X́ X L H̀ X L H̀ X: *(vói.mis.**te**)(**lùt**.te.**le**)(**màs**.ta)* 'having caused to do gymnastics' (Elat.Sg.)

The constraints. In constraint-based terms, Finnish can be characterized by the system in (6) (building on Hanson & Kiparsky 1996 and on Elenbaas & Kager 1999, which should be consulted for more detailed information and references).

(6)   a. *CLASH: No stresses on adjacent syllables.
       b. LEFT-HEADEDNESS: The stressed syllable is initial in the foot.
       c. ALIGN(PRWD, LEFT; FT, LEFT) ("The left edge of every Prosodic Word coincides with the left edge of a foot.") Abbreviated as ALIGN-LEFT.
       d. FOOT-BIN: Feet are minimally bimoraic and maximally disyllabic.
       e. *LAPSE: Every unstressed syllable must be adjacent to a stressed syllable or to the word edge (Elenbaas and Kager 1999).

    f. NON-FINAL: The final syllable is not stressed.

    g. STRESS-TO-WEIGHT: Stressed syllables are heavy.

    h. LICENSE-σ: Syllables are parsed into feet.

    i. ALIGN(FOOT, LEFT; PRWD, LEFT) ("The left edge of every foot coincides with the left edge of some Prosodic Word".) Abbreviated as ALL-FT-LEFT.

The LH̀ effect is here taken to be a manifestation of STRESS-TO-WEIGHT: a light syllable rejects a secondary stress if it can be placed on the following heavy syllable instead (without violating the higher-ranked *CLASH and *LAPSE, of course).[2]

(7)

	*CLASH	ALIGN-L	*LAPSE	NON-FINAL	STRESS-TO-WEIGHT	LICENSE-σ	ALL-FT-LEFT
Input: /opiskelija/							
1a. ☞ (ó.pis)(kè.li)ja					**	*	2
1b. (ó.pis)ke(lì.ja)					**	*	3
1c. o(pís.ke)(lì.ja)		*			*	*	1,3
1d. (ó.pis)ke.li.ja			*		*	***	
1e. (ó)(pís)(kè.li).ja	*				**	*	1,3
Input: /opetta-ma-ssa/							
2a. ☞ (ó.pet)ta(màs.sa)					*	*	3
2b. (ó.pet)(tà.mas)sa					**		2
Input: /kalastele-t/							
3a. (ká.las)te(lèt)				*	*	*	3
3b. ☞ (ká.las)(tè.let)					**		2
3c. (ká.las)te.let			*		*	**	

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[2]Some light inflectional endings, such as Essive Singular *-na* and the possessive suffixes (e.g. *-ni* 'my') are preaccenting, as though they made the preceding syllable heavy. The *CLASH constraint then blocks secondary stress on the syllable before it, e.g. /opetta-ja-na/ *(ó.pet.ta)(jà.na)* 'teacher' (Ess.Sg.). When two such preaccenting suffixes occur in a row, the regular phonological pattern reappears, e.g. /opetta-ja-na-ni/ *(ó.pet)(tà.ja)(nà.ni)* 'my teacher' (Ess.Sg.). On the proposed analysis, *CLASH prevents both preaccents from appearing, and FOOT-BIN together with LICENSE-σ decide in favor of the second.

Tableau (7) shows how ternary feet result from the interaction of (6g-i).[3]

Final heavy syllables can optionally be stressed. See Elenbaas and Kager 1999:305 for an account of the basic option in terms of free constraint ranking. The frequency of this alternative seems to be proportional to the heaviness of the syllable, e.g. *(rá.vin)to(làt)* ≺ *(rá.vin)to(làa)* ≺ *(rá.vin)to(làan).*

2.2 Lexical vs. rhythmic secondary stress

Long stems and the LH̀ effect. Polysyllabic stems in Finnish fall into two accentual types, MOVABLE and FIXED. They are most clearly distinguishable by the morphological and morphophonological properties that we shall investigate below, but there are also more direct, albeit somewhat elusive, phonological differences between them. Movable polysyllables have a rhythmic secondary stress which oscillates between the third or fourth syllable, normally according to the weight of those syllables, in line with the LH̀ effect. Fixed polysyllables have a lexical secondary stress which is invariant on a given syllable of the stem. Although the nominative singulars of movable and fixed stems have the same output stress pattern, their inflected forms (Inessive and Ablative Singulars, in these examples) diverge as follows.

(8) Movable stress (LH̀ effect in inflection):
   a. *Kálevàla*   ?*Kálevàlassa   *Kálevalàssa*   'Kalevala'
   b. *Ámerìkka*   ?*Ámerìkassa   *Ámerikàssa*   'America'
   c. *ártikkèli* ?*ártikkèlissa *ártikkelìssa* 'article'
   d. *ápteekkàri* ?*ápteekkàrilla *ápteekkarìlla* 'pharmacist'

(9) Fixed stress (no LH̀ effect):
   a. *Álabàma*   *Álabàmassa*   ?*Álabamàssa   'Alabama'
   b. *pálsternàkka* *pálsternàkassa* ?*pálsternakàssa 'parsnip'
   c. *ésplanàdi*   *ésplanàdilla*   ?*ésplanadìlla   'esplanade'

Marking stem-level stress with the IPA accent mark (ˈ), we have /ˈalaˌbama/, /ˈpalsterˌnakka/ etc.

Other examples of this stress contrast in polysyllabic loanwords are given in (10).

(10)   a. Stems with fixed penult stress (inflected like disyllabic stems):
          1. Four syllables: *barrikadi, paragrafi, portugali, serenadi, aladobi, sarkofagi, ortopedi, privilegi, kalomeli, kapitteli, filosofi, etanoli, ekonomi, megafoni, makaroni, invalidi, pyramidi, melaniini, margariini, molekyyli, mannekiini,*

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[3]The undominated foot-wellformedness constraints LEFT-HEADEDNESS and FOOT-BIN are omitted from the tableau. Violations of ALIGN(FOOT, LEFT; PRWD, LEFT) are assessed, as usual, by toting up the number of syllables that separate each foot from the left edge of the word; almost any other method would do as well.